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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,175	06/04/2001	Hiromu Ueshima	100341-00008	9628

4372 7590 05/19/2006

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EXAMINER	
PAPPAS, PETER	
ART UNIT	**PAPER NUMBER**
2628	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/856,175	UESHIMA ET AL.	
	Examiner	Art Unit	
	Peter-Anthony Pappas	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182) in view Marinelli (U.S. Patent No. 6, 157, 898), Tosaki et al. (U.S. Patent No. 6, 312, 335 B1) and Lipson (U.S. Patent No. 5, 435, 554).

In regards to claim 1 Lipps et al. teaches an apparatus including a video baseball-simulating game and a special bat (Abstract), wherein an input device (i.e. said special bat) is to be moved in a 3D space by a game player (Figs.1, 4) and a game processor is utilized for causing a change in the batter displayed on a screen (column 3, lines 13-17; Fig. 1). Lipps et al. teaches that the batter's swing is sensed via a centrifugal switch and the appropriate signals are transmitted to a game system. When the bat is swung, the centrifugal force (acceleration correlated signal) causes a weight to move toward a switch. At swing speeds faster than some critical speed (predetermined level), the weight has enough force to actuate the switch (column 5, lines 58-67; column 6, lines 12-26). Lipps et al. teaches that if the ball is in the strike zone and the player has the right timing a hit will result and the action of the video game will respond appropriately, i.e. by providing a moving video depiction of the simulated

activity as affected by the player's movement of the object (column 3, lines 57-59, column 7, lines 51-54).

Lipps et al. fails to explicitly teach wherein a piezoelectric buzzer is incorporated in said input device. Marinelli teaches a device for measuring a movable object, such as a baseball, football, hockey puck, soccer ball, tennis ball, bowling ball, or a golf ball, wherein the speed, spin rate and curve of said movable object can be determined and displayed via an output display (Abstract; column 1, lines 13-21). Multiple sensors should be employed in order to most accurately measure centrifugal force due to rotation, if that rotation can occur along an infinite number of axes through the center of a moving object, such as a baseball (column 10, lines 7-39). Marinelli further teaches that acceleration sensor network 102 may contain accelerometers of one or more of the following types: piezoelectric, mechanical, micro-machined silicon chip, or any other type small enough to be embedded, secured, or attached in a movable object (column 8, lines 45-49).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Marinelli, which are directed towards the measuring and display of properties related to a movable object, into the apparatus taught by Lipps et al., which is directed towards the measuring and display of properties related to a movable object, because Lipps et al. discloses using more information about the swing to perform a better simulation of the game (column 1, lines 45-47) and through such incorporation of said sensors, as taught by Marinelli, this would be able to

be achieved with a greater degree of accuracy, thus allowing for display data, representative of said measured data, to be presented in a more life like manner.

Lipps et al. fails to explicitly teach wherein said acceleration correlation signal has variations in magnitude levels that corresponds to the acceleration of said input device. Tosaki et al. teaches a first object of the present invention is to provide an input device, game processing device and a method and recording medium for same, whereby an instrument such as a fishing rod, sword, bat, golf club, or the like can be simulated without mechanical constraints (column 1, lines 59-63). The acceleration sensor 105 outputs an analogue signal which is directly proportional to the acceleration acting on the input device 1. The encoder 106 converts the value of the analogue signal output by the acceleration sensor 105 when a reset signal is input from the oscillator 109 to digital data (column 7, lines 5-10). In the mode for detecting the strength of movement, the magnitude of the digital data output by the acceleration sensor 105 indicates the strength of centrifugal force, and this data may be treated directly as the strength of acceleration, or in other words, the strength of movement (column 7, lines 44-48). When the player moves the input device 1, the acceleration acting on the input device 1 is detected by the acceleration sensor 105. This data is converted to digital data by the encoder 106 and then transmitted to the game processing device 2 via the multiplexer 107 (column 8, lines 60-64). The game developing means 501 develops the game and displays images on a display 301 on the basis of the detecting signals input from the detecting means 401 of the input device and the operating signals supplied By the buttons and keys 403 (column 9, lines 54-58).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Tosaki et al. into the apparatus taught by Lipps et al., which teaches a baseball-simulating game (Abstract), because Tosaki et al. teaches that since the aforementioned game processing device conducts a game simulating the actions of actual fishing in response to the player's operation of an input device, it is possible to provide a game which is highly realistic for the player (column 15, lines 37-41). It is noted that while Tosaki et al. teaches fishing, said teachings are not limited to those of fishing (column 1, lines 59-63).

Lipps et al. fails to explicitly teach causing a movement in the ball character being displayed on the screen. Lipson teaches that once the result of the hit ball is determined, flow enters state 404 where the appropriate animation sequence is displayed on the video screen to include the previously hit ball and the advancement of any runners on base (column 12, lines 32-42).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teaching of Lipson into the apparatus taught by Lipps et al., because Lipps et al. teaches utilizing additional information about the swing to perform a better simulation of the game (column 1, lines 45-47) and Lipson provides animation for a ball (ball character), post swing, thus allowing for a more realistic simulation of events, surrounding a given swing, to be presented.

3. In regards to claim 2 Lipps et al. teaches that enhanced forms of the invention may detect more information about the swing, such as speed, height, upward or downward angle, etc. to perform a better simulation of game play (column 1, lines 45-

54). Lipps et al. fails to explicitly teach that said game processor determines a moving speed of said input device on the basis of the acceleration correlated signal and a parameter for the change in the ball character on the basis of at least the moving speed. Lipson teaches that the ball's trajectory is determined by the initial hit angle and the initial velocity (speed) of the ball coming off the bat. Flow next proceeds to the final state 428 of FIG. 7 and eventually on to state 402 of FIG. 4e so that the result of the hit ball can be determined and displayed on the video display 48 (column 16, lines 23-39).

The motivation disclosed in the rejection of claim 1 is incorporated herein.

4. In regards to claim 3 Lipps et al. teaches acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner (column 2, lines 54-58). At swing speeds faster than some critical speed (predetermined level), the weight has enough force to actuate the switch (column 5, lines 58-67; column 6, lines 12-26).

5. In regards to claim 4 Lipps et al. fails to teach said game processor including at least operation processing means, image processing means, sound processing means and a memory; said operation processing means executing a program code stored in an information storage medium and calculating at least a position, moving direction and speed of the ball character on the basis of an acceleration correlated signal outputted from said signal output means; said image processing means generates image information including the ball character by use of image data stored in said information storage medium under control of said operation processing means; said sound processing means reproducing sound by use of sound data stored in said information

storage medium under control of said operation processing means; said memory being used for at least said operation processing means to hold a process and result of an operation.

Lipson teaches a computer 42 having six processes which are implemented as combinations of computer hardware and software: pitch selection process 44, hit/miss determination process 45 and hit-ball trajectory process 46, animation model process 43, video process 47 and audio process 49 (column 5, lines 23-42; Fig. 2). It is noted processes 44-46 are considered operation processing means and processes 43 and 47 are considered image processing means. Pitch selection process 44 includes a series of instructions stored in a memory unit (information storage medium) for inputting user data via the animation process 43 and calculating the appropriate pitch trajectory based on the user inputs (column 5, lines 43-61). Audio process 49 generates appropriate sound signals for sounds such as crowd noise, bat and ball contact noise, ball and glove contact noise, and the like. These sound signals are transduced by a speaker 50 thus providing audio feedback to the user 41 (column 6, lines 8-14).

Lipson teaches the ball's trajectory (direction and position) is determined by the initial hit angle and the initial velocity (speed) of the ball coming off the bat (column 15, lines 59-68, and column 16, lines 1-39). Lipson teaches that once the result of the hit ball is determined, the appropriate animation sequence is displayed on the video screen to include the previously hit ball and the advancement of any runners on base (column 12, lines 32-42).

It is inherent that image data is stored in memory.

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teaching of Lipson into the apparatus taught by Lipps et al., because Lipps et al. teaches using additional information about the swing to perform a better simulation of the game (column 1, lines 45-47) and the determination of position, moving direction and speed of a given ball which has been hit as the result of a given swing, as taught by Lipson, would provide a more realistic baseball simulation with regards to both sight and sound (column 16, lines 40-58).

6. In regards to claim 5 Lipps et al. teaches that the signals of said input device are conveyed to a typical commercially available game machine 1 (column 2, lines 29-33; 51-53). However, Lipps et al. fails to explicitly teaching wherein said information storage medium includes a non-volatile semiconductor memory. Tosaki teaches a game processing device 2 (game machine), where said device comprises a CPU 201, RAM 202 and ROM 203. Said ROM 203 stores initialization programs for when the power is switch on (non-volatile memory), and image data (column 8, lines 23-29).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate non-volatile memory for use in a game machine, as taught by Tosaki et al., into the apparatus taught by Lipps et al., because non-volatile memory is a conventional type of memory used in computer systems and through the use of said memory it would allow for said machines to properly operate, for example, when they are powered on from a powered off state.

7. In regards to claim 6 Lipps et al. teaches that said ball game is a baseball game (Abstract) and that said input means includes a bat input device (Fig. 1). The rationale disclosed in the rejection of claim 1, in regards to Lipson, is incorporated herein.

8. In regards to claim 7 Lipps et al. fails to explicitly teach said input device including a ball input device. Marinelli teaches a device for measuring a movable object, such as a baseball, football, hockey puck, soccer ball, tennis ball, bowling ball, or a golf ball, wherein the speed, spin rate and curve of said movable object can be determined and displayed via an output display (Abstract; column 1, lines 13-21).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate a ball input device, as taught by Marinelli, into the apparatus taught by Lipps et al., because Lipps et al. discloses using more information about the swing to perform a better simulation of the game (column 1, lines 45-47) and while the input device taught by Lipps et al. measures data pertaining to said input device hitting another object it is not able to measure data pertaining to said object being hit by said input device. Said ball input device, on the other hand, is able to measure data pertaining to an input device which is being hit by another object. Thus, combining said bat input device and said ball input device would provide the user of said devices a more realistic and interactive experience.

9. In regards to claim 8 Lipps et al. teaches that said input device includes a racket input device (column 4, lines 19-20). However, Lipps et al. fails to explicitly teach that said game processor causes a change in the ball character according to the acceleration correlated signal from said racket input device or that said ball game is a

table-tennis game. Tosaki et al. teaches that the ball game is a table-tennis game (column 17, lines 38-43) and that said game processor causes a change in the ball character according to the acceleration correlated signal from said racket input device (column 17, lines 60-67; column 18, lines 1-2; Abstract).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Tosaki et al. into the apparatus taught by Lipps et al., because Lipps et al. teaches using the disclosed invention for other sports, including tennis (column 1, lines 54-56) using more information about the swing to perform a better simulation of the game (column 1, lines 45-47) and the acceleration sensor taught by Tosaki et al. allows physical quantities such as strength of movement and device orientation to be detected (column 7, lines 11-20) which can be used to provide more realism in a simulation (column 15, lines 37-41).

10. In regards to claim 9 Lipps et al. teaches wherein said acceleration correlated signal transmitting means includes an infrared-ray emission element and a light receiving element which receives the infrared -ray from said infrared -ray emission element (column 2, lines 52-58).

11. In regards to claim 11 Lipps et al. fails to explicitly teach wherein said signal output means includes at least one pair of acceleration sensors which are provided so as to sandwich an origin, and evaluates a moving speed of said input device in accordance with a sum of detection values of said pair of acceleration sensors and a rotating speed of said input device in accordance with a difference of said detection values of aid pair of acceleration sensors. Marinelli teaches a device for measuring a

movable object, such as a baseball, football, hockey puck, soccer ball, tennis ball, bowling ball, or a golf ball, wherein the speed, spin rate and curve of said movable object can be determined and displayed via an output display (Abstract; column 1, lines 13-21).

Marinelli teaches that multiple sensors should be employed in order to most accurately measure centrifugal force due to rotation, if that rotation can occur along an infinite number of axes through the center of a moving object, such as a baseball. For a system having three centrifugal force sensors, sensing along three orthogonal axes, most likely none of the three will perfectly align with the true centrifugal force vector which lies in a plane orthogonal to the axis of rotation. Hence, measurements from all three sensors (summation of data) should be used along with trigonometric relationships to derive the true centrifugal force. The electronic processor circuit or the monitor processor may apply an adjustment factor to the measured elapsed time based upon the application. For example, in a baseball pitch, the point at which a spin event is detected in the windup and release of the baseball will affect the speed calculation (column 10, lines 7-39).

Marinelli teaches for a rotating sphere, such as a baseball, the mechanical g-force sensor switch network would optimally consist of a pair of diametrically opposed switches along each of two orthogonal axes. The electronic processor circuit determines that the movable object is spinning if g-force proportional sensor 442 senses a g-force that differs from g-force proportional sensor 444, or g-force proportional sensor 448 senses a g-force that differs from g-force proportional sensor 450 (column

18, lines 18-27; column 19, lines 22-27). Said sensors are considered to sandwich the origin, as illustrated in Figs. 4A, C-D.

The motivation disclosed in the rejection of claim 1 is incorporated herein.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), Marinelli (U.S. Patent No. 6, 157, 898), Tosaki et al. (U.S. Patent No. 6, 312, 335 B1) and Lipson (U.S. Patent No. 5, 435, 554), as applied to claims 1-9 and 11, in view of Zur et al. (U.S. Patent No. 5, 833, 549).

13. In regards to claim 10 Lipps et al. fails to explicitly teach wherein said game processor evaluates a peak value of a moving speed of said input device based upon acceleration correlated signal, and then evaluating a parameter for the change of said ball character on the basis of at least the peak value of the moving speed of said input device. Zur et al. discloses calculating the peak speed of said input device and then and then evaluating a parameter for the change of said ball for the change of said ball character on the basis of at least the peak value of the moving speed of said input device (column 10, line 49-63).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Zur et al. into the apparatus taught by Lipps et al., because by calculating the peak speed of the input device it would reliably predict the trajectory of the ball (column 2, lines 12-1 5) and thus present a more realistic simulation.

Response to Arguments

14. Applicant's remarks with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

15. Applicant's remarks have been fully considered, but are not deemed persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter-Anthony Pappas whose telephone number is 571-272-7646. The examiner can normally be reached on M-F 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter-Anthony Pappas
Examiner
Art Unit 2628

PP

Ulka Chauhan

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SUPERVISORY PATENT EXAMINER